

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
30 June 2005 (30.06.2005)

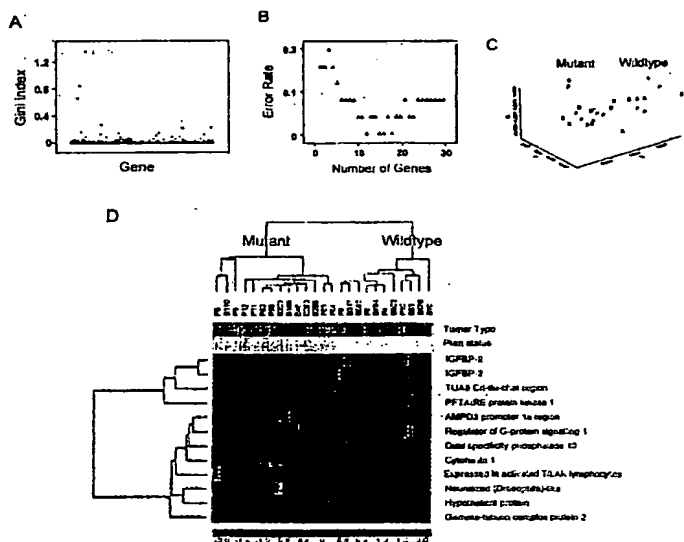
PCT

(10) International Publication Number
WO 2005/059109 A2

- (51) International Patent Classification⁷: C12N (81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (21) International Application Number: PCT/US2004/042258
- (22) International Filing Date: 12 December 2004 (12.12.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 60/530,101 15 December 2003 (15.12.2003) US
- (71) Applicant (*for all designated States except US*): THE REGENTS OF THE UNIVERSITY OF CALIFORNIA [US/US]; 1111 Franklin Street, 12th floor, Oakland, CA 94607-5200 (US).
- (72) Inventors: CHEN, Charlie, D.; 3300 Sawtelle Blvd. #306, LA, CA 90066 (US). SAWYERS, Charles, L.; 3343 Mondeville Canyon Rd., LA, CA 90049 (US).
- (74) Agent: CHAN, Raymond, Y.; 108 N. Ynez Ave., #128, Monterey Park, CA 91754 (US).
- (84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published: — *without international search report and to be republished upon receipt of that report*

[Continued on next page]

(54) Title: MOLECULAR SIGNATURE OF THE PTEN TUMOR SUPPRESSOR



(57) Abstract: The present invention relates to the identification a molecular signature for PTEN tumor suppressor. The molecular signature comprising a gene or genes that are of use for diagnosis, prognosis, drug research and development and therapeutics. Specifically, the present invention relates to identification of IGFBP2 gene, its mRNA and/or protein products that closely associate with PTEN mutations. The present invention further demonstrates that IGFBP2 expression is negatively regulated by PTEN, positively regulated by PI3K and Akt activation, that IGFBP2 plays a functional role in the PTEN signaling and is required for Akt transformation. The use of IGFBP2 gene, its gene product such as its RNA transcript, protein and molecular probes in diagnosis, prognosis, drug discovery and validation and therapeutic target and therapeutics is also contemplated.

BEST AVAILABLE COPY

WO 2005/059109 A2